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DECEMBER 31.

The President, Dr. RUSCHENBERGER, in the chair.

Thirty-seven persons present.

Mineralogical Notes: Randite.—Professor GEORGE AUG. KŒNIG laid before the Academy some specimens of granite from the neighborhood of Philadelphia, showing an incrustation or coating of a canary or lemon-colored substance, which he had analyzed. This substance is probably crystalline, with generally an earthy habitus. It is translucent, with a fine yellow color, and a hardness from 2–3. Owing to the impossibility of complete separation from the underlying orthoclase, the specific gravity was not determined.

Heated in a closed tube, the mineral yields a small quantity of water (not acid), and turns to orange-red. Heated in the forceps in a strong oxidizing flame, it becomes shining black. It dissolves in a bead of microcosmic salt with effervescence (CO_2), imparting to the glass the characteristic yellowish-green color of uranium, changing to bluish-emerald green in the reducing flame. Concentrated cold hydrochloric acid dissolves it before ignition; after ignition only hot acid dissolves it completely. On no other part of the rock would hydrochloric acid produce effervescence, except where the yellow crust was visible. It is reasonably but not absolutely certain, therefore, that the substance examined was not a mixture of calcite with the yellow material. The quantitative analysis was made with 47 mlgrs. of material, as follows: The substance was put into a platinum boat, and brought to beginning red heat in a tube of hard glass, 6 inches long, $\frac{3}{16}$ bore, the tube being in horizontal position, and loosely stoppered at the open end. Water condensed in the cold part of the tube. While the one end was yet in the flame, the front part of the tube was severed by means of a red hot glass rod, and immediately weighed. Weighed again after complete drying, the difference (2.0 mgrs.) being water. The substance weighed now 43 mgrs. It was digested with HCl until the residue was perfectly white, a strong effervescence taking place. Insoluble part weighed 16.4 mgrs. (This is orthoclase and quartz, both quite insoluble in acids.) The real substance was, therefore, 30.6 mgrs. Uranium was separated from calcium by converting the latter into sulphate, and precipitating it with $1\frac{1}{2}$ volumes of strong alcohol. $CaSO_4 = 24.2$ mgrs. $= 9.67$ mgrs. CaO. It was again determined by ammonium oxalate, 9.64 mgrs. CaO. After evaporation of the alcohol, uranium was precipitated by ammonium hydrate, and weighed 9.5 mgrs. U_3O_4.

Percentage composition,

$$\begin{array}{lll} CaO = 32.50 & \text{requires} & CO_2 = 25.49 \\ U_2O_3 = 31.63 & \text{“} & \text{“} = 4.83 \\ H_2O = 6.53 & & \text{———} \\ CO_2 = \underline{29.34}\ \text{(difference)} & & CO_2 = 30.32\ \text{(calculated).} \\ \quad\ 100.00 & & \end{array}$$

$$CaCO_3 : U_2CO_5 : H_2O = 5.3 : 1 : 3.3$$
$$\text{or,} \quad Ca_5U_2C_6O_{20} + 3H_2O.$$

Qualitatively this mineral is identical with *Liebigite*, but the ratio and the percentage of water is very different. Liebigite has a fine green color. Voglite is green likewise, contains copper, and has twice the quantity of water.

$$\begin{array}{llll} \text{Thus: Liebigite} & = & CaU_2C_2O_8 & + 20H_2O \\ \text{Voglite} & = & Cu_3Ca_2U_2C_6O_{19} & + 14H_2O \\ \text{Randite} & = & Ca_5U_2C_6O_{20} & + 3H_2O \end{array}$$

The name is proposed in honor of Mr. Theo. D. Rand, of Philadelphia, who mentioned some qualitative tests with this mineral to the author some two years since. The specimens were obtained from Dr. A. E. Foote. It is self-evident that further examination, with a more liberal supply of material, is needed to establish this mineral thoroughly as a new species.